

The 50 MHz DX Bulletin

Volume 2

1991 October 15

Issue #18

FALL '91: ACROSS THE POND

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Although the 1990 October-December F layer season between Europe and North America was a bitter disappointment, hope springs eternal 1991 will be more like the fall of 1989, and that hope is the premise of this article. Here are a few suggestions for making the most of F layer propagation this fall across the pond.

Monitoring 30-50 MHz (From Europe)

With no North American television carriers below 54 MHz, Europeans attentive to 6m possibilities must rely upon frequencies well below 50 MHz as propagation indicators. With few exceptions, these are 2-way (typically FM) services including repeaters operated by private businesses, municipal authorities and public safety (i.e., police, highway patrol) organizations. Few of these accumulate anything like 10% transmit time, which means you might be parked on e.g. 47.88 MHz for an hour hearing only six total minutes of transmissions, even *with* propagation. And that six minutes total per hour could be in 20-second 'bursts.' It is therefore best to keep the tuning dial moving, manually scanning a 2/5/10 MHz spectrum searching for these brief, infrequent transmissions. [Some of us favor *automatic* scanning of carefully-selected sub-50 MHz channels instead of manual, as it provides a seamless 24-hour MUF watch, while keeping us free to concentrate (manually) on the first arrival of amateur signals inside the 6m band.--Ed.]

North American 2-way in this region is normally spaced in 20 kHz steps, e.g. 35.02, 35.04, and so on. Many systems in Latin America are offset from this 20 kHz step arrangement by customized amounts, e.g. 40.345 MHz. They do this to reduce skip-QRM. Most such systems stand out not only by their offsets but because of their language, Spanish or 'Caribbean British' (e.g., *mon*).

Pagers in the U.S., with their mixed voice and digital tone signalling, run high power and high activity. These pagers constitute important first-level propagation indicators. Some frequencies have several dozen different transmitters spread from Maine to California. If you have propagation to two or more transmitters simultaneously on one channel, that channel will be active more than 90% of the time. These pagers group into two frequency 'bands': 35.20-35.70 and 43.20-43.70 MHz. In both cases, there are a few additional channels above and below these limits. Frequency loading of any channel varies, as does transmitted power.

The best channels will vary depending on the listener's location and on the type of opening. In general, for European listeners, the following are the key channels:

35 MHz band: 1. 35.24 2. 35.58 3. 35.20 4. 35.22 5. 35.54

43 MHz band: 1. 43.20 2. 43.54 3. 43.42 4. 43.58

The 35 MHz range is also used in the "American Caribbean"; i.e., Puerto Rico, US Virgin Islands (e.g. St. Thomas on 35.34). Those in P.R. speak mostly Spanish, with some English (e.g. 35.08, .14, .24, .26, etc.).

While it is *possible* to individually identify these transmitters (FCC rules require ids at 10-minute intervals; most use 20 wpm Morse for this purpose, e.g. KMA234), in a practical sense you are likely to simultaneously hear several (to a dozen or more) on such a channel, making identification very difficult. Even if you do verify the call letters, a current, complete listing of such transmitters is lacking.

Instead, you can derive propagation information from the simple presence or absence of activity. Hearing only one station/service on a paging channel does not suggest much in the way of a widespread opening. As the MUF rises, you will hear first one, then many on each channel. An early time for first fade-in may indicate that the MUF will rise especially high. If signals peak in strength then gradually drop, it may (but not necessarily) indicate that the MUF has risen far above that frequency. Finally, if signals are free of fading, it may be a better sign than QSB-ridden signals.

Other services above 44 MHz generally have occasional, brief transmissions. They use 20 kHz steps all the way up to 49.98 MHz. Several thousand such transmitters exist between 44 and 50 MHz, each with its own callsign and its own method of conducting business. There are no beacon or particular reference channels nor specific stations to guide you. [Editor's note: I use 49.595 MHz as a primary eastern North America indicator. It is a high speed digital data stream intended for trucks via meteor scatter. Transmitter sites are in Custer, Kentucky and Piney Creek, Virginia, running 7 kw ERP with an array of M² yagis. Thanks to K6MYC for this info, which has resulted in successful early alert of impending 6m propagation several times for me. Another special frequency to watch is 49.995 MHz, where a 100-watt transmitter operates into a 4-element yagi beaming 100 degrees from a site near High Level, Alberta. This is operated by the University of Saskatchewan Institute of Space and Atmospheric Studies. Thanks to VE5UF via VE3DSS for this info.]

At your location, you will gradually discover certain sources which you hear more often than others (e.g. Louisiana/Texas oil-rig crews on 48.98; WSN906 Puerto Rico on 49.58). These if written down for reference become your own warning signals at your QTH alerting you that a particular path may be about to open. It's not necessary that you know exactly who or where they are, only that you hear them just prior to 6m openings to (fill in your own blank).

Above 45 MHz, around 25% of those signals will be repeaters; we'll assume you typically hear the output since they are better situated and run more power than transmitters on the input. We've heard stories about daring hams who routinely move a transmitter across the 45-50 MHz spectrum trying to key up repeaters that are being heard on

skip. Few would be so bold (*) but that is one method of checking propagation between you and a distant point. Some transmitters sound like repeaters but are actually remote bases, i.e. receiving input from a point-to-point link or even via landline. If you hear a squelch tail, you have a repeater. But some tails are so short as to not be evident, so tail-less signals may still be a repeater. If you are hearing both sides of a conversation, check the relative signal strength of the two sides. If it differs, you're hearing multiple transmitters; if not, it's probably a repeater.

* Communications Electronics, Inc. (P.O. Box 1045, Ann Arbor, MI 48106-1045; 313-996-8888; FAX 313-663-8888) sells RELM brand RML60B 60-watt-output 37-50 MHz 16-channel FM transceivers for \$489.95. With the optional PM100A synthesizer, at \$99.95, these will hit any channel you wish in this range. With a wideband antenna, two people might walk the MUF up a MHz at a time, purely in the interest of scientific investigation, of course. This might be called the triple-zero check: transmitting briefly at 44.000 and then, if successful, 45.000, and so on until propagation runs out. There are some jurisdictions, such as VP5, where this would not present any legal problems.

One important factor to keep in mind is the relationship between the size of the footprint and the location of the peak MUF, relative to your listening frequency. Picture an iceberg, with only a small tip protruding above 50 MHz. This tip may only cover an area of a hundred square kilometers; meanwhile the portions below the 50 MHz "waterline" occupy huge areas. The tip may be rapidly changing in location, without noticeable motion of the larger sub-50 MHz portion. Meanwhile, the peak MUF may be rising and falling, again without being noticeable at, say, 47 MHz. That these detailed changes are (by present methods) totally unpredictable is of course part of the six meter *magic*. Just don't get so sidetracked in listening to indicators that you fail to catch a 60-second 6m opening as the footprint sweeps past!

MEANWHILE,

FROM THE NORTH AMERICAN SIDE

The CU3/K6EDX June adventure reinforced my own feeling that 6m in Europe has changed dramatically since 1989 (the last fun-filled fall season on the North Atlantic path). Some general observations first.

1. There may be more U.K. stations on 50 MHz, per grid-square, than anywhere else in the world.

2. During June 1991 there was also intense 6m activity from OE, PA, DL, I, OZ, F, LA, SM, OH, 9H, and more recently YU. Portugal was a disappointment for activity; EA had no legal 6m operation although they might pop up on your frequency just long enough to ask you to cross-band.

3. During the June Es season, 6m was a weekend band by about a 2:1 ratio (after 1700 UT) or 10:1 (before 1700 and after 2200). This statement is based upon the number of hours during the 24-day period that I had 48/49 MHz video and/or 6m beacons but no response to my calls on 50.110. That Es is more unpredictable than F layer, the latter allowing DXers to arrange their lives to fit anticipated band openings, goes without saying. The point here is that even with the greatly increased 6m activity in Europe, you may have many hours of propagation across the pond and no takers. This will be especially true when your signal is landing in Spain/Portugal/Switzerland (with 48.25 video offsets), or in the former eastern-block nations (with 49.75 video offsets). Only the Austrian 49.7501 TV carrier is

located within a region with both 6m and 49 MHz video. Any other 49.75 video will come from a region in Europe with no 6m activity [that situation is changing quickly; Estonia can now be added to the list--Ed.]. This does not say you will not hear 50 MHz signals when 49.75 carriers are in. The bigger the footprint, the more carriers and 6m signals propagated.

Monitoring 30-50 MHz

My June 91 operation at CU3 afforded the opportunity to carefully monitor the region between 30 and 50 MHz with an eye to building a data base of transmitter sources heard. After several hundred hours of listening and data recording, several images emerged.

Possibly because of European TV channel E2 (48.25 nominal video carriers), virtually the only signals heard above 45.0 MHz are either the TV carriers (with sidebands) or cordless telephones. These wireless wonders are of some interest because they are heard throughout the 48 and 49 region, even from Portugal and Spain where E2 TV operates.

European 2-way radio in this part of the spectrum is utilized very lightly by comparison with North America. The total lack or near total lack of any signals from the U.K., Netherlands, Scandinavia, and others was an eye-opener. That's not good if you are in NA and hope to walk the MUF upwards from 30 to 50 MHz.

30-50 MHz 2-way radio is alive and well in France, Spain, Portugal, and perhaps Italy, but unlike the NA assignments, each country appears to have grouped its licensees (one assumes they are licensed) into relatively narrow chunks of the spectrum. Only marginal use of the same chunk of spectrum by more than one European country was observed. This may be the result of a little-publicized intra-Europe agreement, an accident, or simply coordination on an ad-hoc basis. It could also be an observation error on my part.

In France, the pagers, signalers, and repeaters are grouped between 35.000 and at least 36.025. The original channels were spaced 25 kHz apart but some of these have been split to 12.5 kHz channels (e.g. 35.0375, 35.1125, 35.2875). *No other French 2-way was heard above 36 MHz, save a possible 42.720 AM 2-way service and one FM 2-way at 40.2175. No cordless phones were heard from France (but see the In Band section that follows). There are no E-2 videos in France; nearby are 3 in Germany and 1 in Switzerland. [Also in France are L-2 TV audio signals on 49.224 (noted recently by VK3OT) and three on 49.250. —Ed.]*

In Spain, besides the video indicators, there is a scattering of 2-way between 40 and 45 MHz (e.g. 40.45 repeater; police? 40.50 base/mobiles; 42.975 A0 + telephone). Spanish 2-way is seldom heard below 40 MHz (exception: 39.275). There are many 45-50 MHz FM (and a few AM) telephone-family systems (e.g. 45.18, 45.24, 45.96, 46.15, 46.68, 47.1, 47.28, and some within the 48/49 MHz TV band).

In Portugal, there is a surprising number of 2-way systems. Lowest is 37.54, apparently a repeater. Higher are a 38.26 repeater, a 39.90 repeater, plus a lively group between 40 and 41. These seem to be the best bets for serious sub-48 signals:

Repeaters: 40.14, .16, .18, .20, .22, .54, .60, .64.

Simplex: 40.06, .14, .16, .18, .20, .22, .24, .26, .34, .36, 41.175, .65, 42.65.

Note that these are spaced 20 kHz between 40.0 and 41.0, and 25 kHz above 41.0. Some FM and AM telco units appear in the 47-49 MHz range.

From Italy, only a handful of Italian 2-ways were identified from CU3. This is despite being within 2-hop Es range and working some 60 Italian 6m stations, and hearing Italian cordless phones and studio-transmitter links in the 45-50 MHz region. Bad luck? I doubt it. Now, I wonder from whence did the more than one dozen 40-49 MHz Italian-speaking channels come, which I heard in New Zealand in February-April. The time frame and antenna bearings from ZL never gave reason to question that Italy was their origin point. Could they be in North Africa? Lots of Italians living and working in perhaps Argentina, or Brazil? Or perhaps some unexplained failure of the 2-way signals to stand out on Sporadic-E (well, EE) when they did very nicely on F layer?

Italy has no 48.25 TV transmitters; Switzerland on 48.2501 is the nearest along with Austria on 49.7501. [Lorenz lists five E2's in Italy—Ed.] Middle and southern Italy are far enough from either of these that you could hear the 50 MHz signals (with Malta) all alone (i.e., possibly without 48/49 MHz video carriers). With that as a backdrop, here is what could be identified from Italy in CU3, combined with those mystery 40+ MHz channels logged earlier this year in ZL. Note that, as in Portugal, the systems appear to be 20 kHz spaced below 41 MHz, and 25 kHz above.

35.24 AM, possible 35.22 AM, 35.55 tone call/signaler (all CU3), 40.24 2-way (CU3), 40.54 (CU3), 41.10 2-way (CU3 and ZL), 41.28 2-way (ZL), 41.26 2-way (ZL), 41.55 repeater (ZL), 41.90 repeater (ZL), 42.80 repeater (ZL), 44.375 2-way (ZL). These five are all telco links (CU3): 46.125, 46.277, 46.40, 46.65, 47.40. Then 48.25 and 48.275 telco links (ZL), 48.85 wideband FM broadcast link/STL (?) (CU3), 49.73 telco link with beeper tone when not in use (CU3), 49.74 telco link with rotary dial (CU3), and 49.75 telco link (CU3).

In-Band Signals

Sync-pulse video modulation sidebands associated with strong signals in the 48/49 MHz region propagate within the 6m band whenever the MUF reaches 50 MHz between you and a distant TV transmitter. This sync-pulse QRM, which sounds like buzzing carriers typically spaced about 15.7 kHz apart, make listening difficult at times. Sitting in CU3 and listening to these wonderful artifacts for tens of hours inside the 6m band suggests to me that 50.110 is ill-chosen. It can be difficult to find a hole anywhere above 50.000 when there are several TV signals propagating at the same time, but 50.110 is, on a scale of 1 to 10, a 10 for poor positioning. As a practical matter, you in NA may get clobbered with the TV crud while the guy in Europe (not next door to such a transmitter) finds 50.110 quite clean. The net result is that he hears your call on 50.110 and answers, and you don't hear him in the crud. Suggestions? No suggestion is going to change 50.110 worldwide, but 50.105 and 50.115 were (by observation) far cleaner on average than 50.110. [Those working into the Americas and other NTSC video-standard regions should also be

aware that operating in the sector 50.111-.114 should be avoided because of the 14th harmonic of the "color burst" frequency, which is nominally 50.11363 MHz.—Ed.]

Two in-band carriers have mystified 6m DXers for years: one at 50.024 and the other at 50.100. Both are reported sometimes as A0 (unmodulated carrier) and sometimes as a tight cluster of tones. The general consensus is that they originate in France; one report says 50.100 is a TV audio link, near Paris. On several days between 1500 and 1900 UT I heard modulation on the 50.100 signal: FM, just slightly wider in deviation than my IC575H could handle. It was broadcast programming in French; I suggest a studio-transmitter link, possibly between a remote studio and a main studio for a pop music format station. I never heard any modulation on 50.024. Both carriers sound like 25-100 watters. At this point in time, I'd have to offer them as indicators for France, even if their source is uncertain (I did ask several F stations about them and learned nothing concrete).

On strong F layer propagation there are likely to be many other in-band signals as well, especially between 53 and 54 MHz (a subject I will ignore for now). These include FM at 50.050, originating from France and elsewhere (the French military is assigned 50.000, .025, .050, and .075 for FM communications).

[At presstime, VK's report reception of encrypted RTTY on 50.102 which is said to be from Yugoslavia. Also, considerable use is made of NBFM in and around the 6m DX window by the U.S. forces in the Persian Gulf area. I'm told they've even confirmed their general location in unofficial QSOs with inquisitive DXers.—Ed.]

Language Clues

Few of us have linguistic abilities, and unless you hang around 15 MHz SWBC services a bit, telling the difference between, say, Spanish and Italian in a noise-laden signal can be difficult. CU3AK, a friend who is an 11-meter nut in the Azores (where it's legal), assisted me in preparing a list of the "over" word as commonly used by people on the radio. The theory is that if you can listen for the last word in a transmission (where an American might say "over"), you might get a clue as to the language from the sound of that word. There is no guarantee that a police dispatcher in Barcelona uses the common Spanish word for over, but it is a start.

Language	Sounds Like (in English)
English	Over
French	Ter-min-ay (or ter-min-ee)
Spanish	Cam-bee-o
Portuguese	Es-coot (or es-coot-tow)
Italian	Fin-e-tow
Italian alternatives:	Tear-me-not-tow, Tay-tay

Some European 2-way systems use an "over beep" as well. Anyone who can add to this list (Russian, Chinese, Korean?) is invited to do so.

There you have it; several ways to analyze what you are hearing to prepare you for working across the pond. Now if the ionosphere—

PROPAGATION HIGHLIGHTS for 1991 October 1 to October 15

LONG PATHS: The North America-to-southeast Asia L.P. popped open several times in this period. On the 4th at 1507-1528, Okinawa got into TI2 and southern W6. Around that time on the 6th, JR6 had TI2 again. On the 12th, HC1BI had L.P. into JA2/3/7 for 2 hours starting at 1300, and WQ5S in north Texas had JR6 at 1425. The next day, the 13th, in the period 1400-1510, JA1/4 and JR6 were into CO2KK, Texas, New Mexico, and San Diego; CO2KK is also rumored to have heard a VK6 at that time. On the 15th, N5JHV had JR6 again. Elsewhere, VK4ALM reported 9L1US/b at 0020-0040 on the 5th. At the end of the 5th, 9L1US/b was into Brisbane and VK2BBR from 2244 to 2339; simultaneously ZD8VHF/b was reported in Townsville from 2235 to 2341. Also simultaneous was JA L.P. into 9H and ZB at 2300-2345. The latter path opened again at 0018 on the 8th. On the 9th, at 2215 to 2300, Japan had 9H and CN8, followed at 2305-2315 by 9L1US/b into Brisbane. On the 11th, Japan had Malta again at 2309-2325. On the 12th, they had CN8 and PY0FF at 2218-2309, and the next day CN8 again at 2330-2345. The 14th produced an even bigger footprint into Japan, with PY0FF, 9H, ZB, CN8, and PY2/6/7.

ANTIPODAL PATHS: The Japan-to-South America path was open around the UT date-change hours on at least the following dates: October 3/4, 4/5, 5/6, 7/8, 8/9, 9/10, 10/11, 11/12, 12/13, and 14/15.

SHORT PATHS: The ZL/VK/etc path into North America continued to open almost daily; the following were especially noteworthy. From 1915 on the 1st until at least 0322 on the 2nd, ZL1/2 and VK4 had W5/6/7 plus Florida, and at 2334 ZL0AAA worked WA8FTA/9 in northern Illinois. Both stations reported auroral flutter on each others' signals; the Boulder K-index was 5 at 2100 and 0000. WA8FTA/9's beam peaked northward, so this was another of the F2-Au linkups discussed in Issue 17. The next day saw another big opening, with FY7 and FO5 (and ZL) into 3D2; ZL1/2 into FO5, YV4, TI2, XE2, W5/6/7, and KH2; VK4/2/3 (and maybe VK7?) into ZK1s, DU1, V73, JA, KH2, KH6, and W5/6. During both of the above dates, ZL1 signals were workable in KH6 via sidescatter (nothing on direct path), sometimes with both ends beaming toward Centroamerica, and later in the day with both ends beaming toward various spots along the Dateline. Also of interest is the report that HC1BI had 46.172 Too-woomba video for an hour starting at 2330 on the 2nd. On the 6th at 0000-0017, Brisbane stations had Georgia and Alabama. On the 11th at 0112-0142, Townsville had Georgia. On the 14th at 2310-2340, Brisbane and VK2BBR had Ohio and the Dakotas.

The path from Japan to North America began to open on October 12, with some JA-W6 QSOs via sidescatter off the south-central Pacific from 0215-0315. Less than 24 hours later, the direct path opened, starting with a tentative report of N4SR (?) being heard in Hokkaido at 2330 on the 12th. Then for the next 75 minutes, northern Japan worked W6 and New Mexico. Reinforcing the view that this season is running earlier (and better) than in previous years, Dave N5JHV notes that his first JA opening occurred on October 12 this year. In 1988 it was October 28; in 1989, October 14; and in 1990, October 26.

Another path that seems to be ahead of schedule is Africa to North America. On October 7 around 1545-1650, VE1YX had 9L1 and V51 beacons. On the 9th at 1355-1410 the V51 beacon was into W3. On the 11th at

1445-1600 7Q7RM, along with 9L1 and V51, were into VE1 and W1/2/3/4. The 15th brought FR5SIX/b into W1 at 1315-1330. Sometime that same morning, the CT0WW beacon and ZB0T were also into the east coast, which apparently was the beginning of Europe to North America for the season.

The Africa-to-Far East path was open on the 10th, with 9J2 into JR6, time unknown. The same date produced Malta into VK4 at 0905-0930. The latter happened again the next night at 0745-0945, followed by Germany into VK6PA at about 1040. The 12th had 9H and SV into VK4 at 0651-0746, and again at 1020-1044. In between those two openings, Greece was into Manila at 0840 (the first Far East to Europe short-path of the season?). Sometime on the 13th, VK8 Darwin had Europe. The 14th brought many European countries into many parts of VK and JA. Again on the 15th, around 1000, YU/G/F were into VK & JA.

All in all, it seems safe to say that the current season is shaping up to be as least as good as late 1989, and probably better. The Flux Cult has been left without a leg to stand on, as the flux has been under 200 almost continuously for two solar rotations. Thus far, no clear 27-day periodicity has emerged in the F2 data this season.

NEWS OF OCEANIA

Australia Beacons: VK7RSB was heard on its new frequency, 50.0570 on October 18 by VK3OT. This means it's just 200 Hertz below VK8VF. Not good. Meanwhile VK3SIX is being widely heard on 50.0538; Steve is setting up a tone-coded remote control for VK3SIX so it can be switched between the beam and the vertical, as well as adjusted in power.

Brunei: V85EA is now said to be QRV with a 5-element yagi that was left by V85DA.

French Polynesia: A new station recently showed up on 6m from Tahiti: Pierre FO5NT in BH52fk. He runs an FT726 with 10 watts into a vertical, and said that QSLs should go via buro.

Hawaiian Islands: Ken KH6HH sends an updated list of 6m activity on the island of Oahu. In grid BL01 are KH6HI, KH6JEB, KH6JOI, and KH6FLD. In BL11 are KH6HH and AH6JF. AH6IO sold his 6m rig, and KH6NS and KH6JJK have moved to the mainland. NH6LT, KH6IJ, and KH6BZF are mostly inactive.

Johnston Atoll Beacon: Richard KH3AF says that the KH3 6m group expects to start running a beacon soon. They have had one listed in some lists for years, but it has never been a reality. They have an old TS600, and an MFJ Grandmaster keyer, and will purchase an omnidirectional antenna shortly. Their listed frequency of 50.090 is not a good one, or even legal, so I have recommended 50.0635 as an appropriate spot.

Kure Island: Rick KH6JEB is planning to activate KH7 again from November 1 to 15 (if transportation is available as expected). Tnx KH6HH.

Mariana Islands: Len KH0AC has been showing up on 28885, but has not made any 6m contacts outside the

Pacific yet this season. He runs 10 watts into an 8-element beam, but the rotator is broken and the beam is stuck on North America.

Micronesia: JA7MHZ will be operating as V63DX from the Pohnpei QTH of V63AO, from November 23 to 27. The primary operation will be HF for CQWW, but before and after the contest he'll activate 6m. Tnx KG6DX.

Midway Islands: KH4AE showed up to work a few VK4's on October 19. He and KH4AF are rarely active, but they can now be reached by Ken KH6HH via a secret Oahu phone number. KH6HH can be raised on 28885, and he and other Oahu KH6's also can make free calls to bring up the KH3's. Note that KH3AF, KH4AF, KH3AE, and KH4AE are all active on 6m, so be sure to get the number correctly!

Norfolk Island: Bob VK9ND is getting started on 6m, with up to 40 watts into a 6-element beam. No other activity has been reported from Norfolk as yet this season.

Palau: Seven operators from the Oklahoma DX Association, including 6m man W0RRY are planning an all-band DXpedition to KC6 in 1992 March 1-15.

Papua-New Guinea Beacon: P29BPL is temporarily running his beacon only between 1400 and 2000 UT (when TVI is not a problem). The antenna is a 4-element yagi. In late October Paul will relocate it to its new permanent location at a good, low-horizon site about 500 meters above sea level. The antenna will then be a turnstile; power is 20 watts. The measured frequency has been tweaked down to 50.0195. Tnx P29PL.

Philippines: Louis KG6UH/DU1 has a new QSL address: Capt. Louis Anciaux, USNR, USCINC; PACREP-LNO US Embassy Manila, APO AP96440, U.S.A. Tnx G4UPS.

NEWS OF ASIA

Asiatic RSFSR: JE7RJZ is planning to operate from Irkutsk, just north of Mongolia, on October 28-30. As with the JT portion of the DXpedition, a keyer will run on 50.100 (so please remember to keep that frequency clear during the operation). Tnx ZL4AAA.

Bangladesh: It is possible that a 4-month DXpedition including 6m will begin November 3, by a Japanese VK2 operator. VK3OT and others are trying to arrange for 6m gear to be made available.

Cyprus: 5B4JE and 5B4YX are now QRV on 6m. No further details, and no sign of them on October 17 or September 18 when your editor copied 5B4CY/b via the long path.

Japanese Beacon: About October 10, a new beacon appeared on 50.0481, with the callsign JA7YYL. The message, in cw, is "V V V DE JA7YYL IWATE QM08OW," then a short pause. It runs 10 watts into a ground plane, and is said to be a permanent beacon. Tnx VK3OT. This frequency means the planned ZL2 New Plymouth beacon, expected on 50.0475, will need to be careful not to land atop JA7YYL/b.

Kampuchea: XU1U showed up on 6m and worked many JA stations, transmitting on 50.115, listening 50.125. This began on October 10 and ended 5 days later.

Kazakhstan: Active stations in Alma Ata now include UL7GCC, UL7GI, and UL8GDD. Tnx KG6DX.

Kazakhstan Beacon: The Alma Ata beacon is now nominally on 50.033 with 10 watts into a vertical. Tnx KG6DX.

Lebanon: Following up on the item in issue 17, Roger LA4GHA/OD5 is reported as ready to operate on 6m, with his 3-element yagi already up in the air, just waiting for his 6m gear to arrive from home. Roger's QTH is 800 meters above sea level, and he is with the United Nations Forces. QSL route for OD5SK is Mr. Samir Khayat, PO Box 180, Tripoli, Lebanon. Tnx G4UPS.

Macao: XX9JN put in a rare 6m appearance on October 19 during a major European opening. He seems to come up only when the VS6 ops telephone him to advise of 6m openings.

Mongolia: JE7RJZ will operate in JT on October 24-27. A keyer will run on 50.100. Tnx ZL4AAA.

Saudi Arabia: Bert W2USA, who had been the 6m operator at HZ1AB, showed up on 28885 from his state-side QTH (Fort Lewis, Washington). He says that the 6m rig is still in Dhahran, but that since the U.S. forces are using NBFM for tactical communications in the 50 MHz band, the hams at HZ1AB cannot transmit on 6m.

Taiwan: Ran BV2DQ is using an FT726 at 10 watts into a dipole. He and BV2DP appear to be sharing the same station. They have recently worked as far east as Hawaii and, on October 19, as far west as Italy. QSL to Box 10983, Taipei.

U.K.Bases on Cyprus: Kevin ZC4KS, a newcomer to 6m, had his first QSOs with 7Q7RM and 9H1PA on August 25. He runs 10 watts to a dipole, but he does intend to improve the rig, and to be as active as work allows. QSL to JSB, Episkopi, BFPO 53 via London, England. Alan ZC4AB may also be active now. Tnx G4UPS.

NEWS OF NORTH AMERICA

Alaska: A new station is active, Jim KL7CC, with an IC551D and a 5-element beam. Tnx AL7C.

Alaska Beacon: AL7C/b is back on the air, running 20 watts, from the QTH of KL7CC. Tnx AL7C.

Bahamas: Bill KM1E will be returning to Green Turtle Cay (FL16) from December 1 to mid-January, and then again for all of March. The equipment will be the same as last year's—TS680, 60 watts, 4 element W2PV on a 0.6-wl boom. For Bill's summary of last winter's results at C6A, see page 1 of Issue 8, Volume 2.

El Salvador: Andy YS1AG showed up recently on 28885, speaking excellent English. He reports having heard several beacons, but was unable to raise any contacts on 50.110. His rig has 3 watts into a 7 element beam. He may soon embark on construction of an amplifier. He also commented that the local radio club has a nice repeater site atop a volcano, and would happily put a 6m beacon up there.

Jamaica: Correcting the item in Issue 17, it turns out that W3JO and N4HSM were planning separate DXpeditions at the same location on the same dates, unbeknownst

to each other! After seeing the item in the Bulletin, they contacted each other, and began coordination to avoid a potential conflict. New details will be printed here when they are received.

Mexico: Emilio XE3EB has been active on 6m recently; his QTH is EL51 at the north end of the Yucatan peninsula. He gives his QSL route as PO Box 309, Nerida, Yucatan 97000, Mexico.

St. Pierre et Miquelon: Harry KA3B is considering a 6m DXpedition to FP, perhaps in late November/early December. He also may have found a resident op who has an interest in VHF. If so, then Harry may donate a 6m setup, as he did in Bolivia last season.

St. Vincent: John KP2A operated as KP2A/J8 for a week, starting October 10. QSLs go via N6CW.

Saint Martin/Sint Maarten: Jim, W6JKV, will be in the West Indies from November 1 to December 1, primarily at FS and PJ7.

NEWS OF SOUTH AMERICA

Argentina Beacon: On October 10, a new beacon began to be heard, frequency about 50.0985. The message is as follows: 17 dots, then "DE LU2MFO BEACON DE LU2MFO BEACON QTH ROSARIO PWR 4 WATT 4E 73." Per Rand McNally, Rosario is at 32.57 S, 60.40 W, which is grid square FF97, some 230 km northwest of Buenos Aires. It is not known whether this will be a permanent beacon; if so, the frequency choice is regrettable.

Bolivia: Glenn CP6BY has recently been working stations in Africa and South America on 6m. His M² 5 element yagi was damaged in a June windstorm, but he has received replacement parts. He is also recovering from illness, but has plans to put the 6m beam atop a dedicated tower/rotator soon. Meanwhile, he is using a Cushcraft AR-6 vertical. Tnx KA3B.

Chile: Mauricio CE2JXO has been worked recently on 6m. No other details yet.

Ecuador Beacon: HC2FG/b has been reported far and wide on its new frequency of 50.0920. It is currently running 10 watts into a vertical. Tnx HC2FG.

French Guiana: A new station that showed up in PY5CC's log for September 21 is FY3FL; nothing more is known. Eric F1JJK/TL8MB/FO0AQ has plans to visit FY later in the year. He will try to recover the logs and unanswered cards from FY5AU, and keep everyone happy with QSLs. Tnx GJ4ICD. It might be noted that many DXers have FY5AU's card already, while many others have been waiting for a year or more.

Galapagos Beacon: HC8SIX/b returned to the air for the season on October 11.

St. Peter & St. Paul Rocks/Trindade & Martim Vaz Islands: Roger WB4WTC says he will probably be soon sending an N4LTA 6m amplifier to PS7KM for future Natal DX operations from PY0T & PY0S.

San Felix: In a letter to N6CW, Kevin KB6SL/CE3 advises that the loaned 6m equipment was shipped to XQ0X on Isla San Ambrosio, and was due to arrive there on October 7. Shipping limitations are such that the rig

will stay out there until at least the end of November. A similar XQ0X operation last season resulted in just 67 contacts on 6m. The QSL route, as before, is via CE3ESS.

NEWS OF EUROPE

Azores: Joel N6AMG will operate from Terceira (HM68) from November 23 (sunset) to December 12 (morning). He plans to concentrate on 50.090, listening there or 50.080 if QRM dictates. He is bringing a kilowatt rig and long yagi. QSL via Steve Lund WA8LLY/6, 10180 Mill Station Road, Sebastopol, CA 95472-9655 U.S.A.

Azores Beacon: Geoff GJ4ICD reports reception of a "CU/bcn on 50.877 at S9+ via Es, at 1615 on September 25." No further info.

Belgium: Francis ON5SE has a new address: Mr. F. Mayon, Fouches, Rue de la Vallee, 29, B-6700 Arlon, Belgium. Tnx G4UPS.

Estonia: More on the ES0SM operation. It ran from September 8 to 17, fundamentally for 144 MHz, in grid KO08XL. Almost 400 QSOs were made on 6m with 10 watts to a 4-element yagi. QSL route is via SM0KAK, who recently moved to a new address (so the callbooks are wrong): Lasse Melin, Platavagen 18, S-19140 Sollentuna, Sweden. Tnx G4UPS. At presstime, word has been received that 6m is now officially open to Estonian amateurs. Tnx K1JRW.

France Beacon: FX4SIX has moved from 50.0465 to 50.314, and is being copied well across the Channel. Tnx G4UPS. I believe this runs 50 watts, cw mode, to an omnidirectional antenna.

Ukraine Beacon: UB7I is said to be the call of a new beacon on 50.040, with 10 watts into a vertical. No info on whether anyone is active in UB. Tnx KG6DX.

Yugoslavia Beacon: 4N3SIX is now operating on 50.016, ex-50.013, from the QTH of YU3EA. It runs 24 hours, CW mode, with ten 1-second dashes followed by "4N3SIX SLOVENIA JN76HD BT PWR 10W ANT 5EL YAGI QTF 325 BT INFO/QSL VIA YU3GO AR." Tnx G4UPS.

NEWS OF AFRICA

Ascension Island: On October 9 or 10, Nick ZD8ACJ (G0ACJ) made his first 6m contact (with Malta), and was said to be quite interested as a result. He knows about 28885, and is willing to accept landline alerts up until midnight UT. Nick will be there until Steve Hodgson ZD8LII returns on November 19. Location is exactly the same as for ZD8MB—II22tb—in Two Boats Village at the foot of Green Mountain. QSL route for Nick is Mr. J. N. Lay, 1, The Spinney, Woodlands Vale, Scarborough, N. Yorks YO12 5HQ. Tnx G4UPS and N5JHV. Also, N6TJ will be QRV as ZD8Z starting about October 21. He will concentrate on HF until the 27th, then hopes to be quite active on 6m for at least 2 further weeks. QSL via W6CF. Tnx N6CW.

Cape Verde: Jim N6TJ recently talked with Julio D44BC. Julio says that the Swan 250 "squeals, makes noises, and won't transmit." Therefore, when Jim arrives for a visit in mid-November, he will bring a set of tubes and other parts for the Swan, and try to get it ship-shape.

Gabon: Alain TR8CA is back in Libreville after 2 months holiday in France. Within a few hours of his arrival he had booked into 28885 and had his keyer running on 50.092! Tnx G4UPS.

Gough Island: ZS5AEN's trip has been cancelled, and there is not expected to be any amateur activity at ZD9. Tnx ZS6WB.

Lesotho: 7P8EN was activated for the Southern Africa contest on September 21-22. Very few contacts were made, but QSLs go via Bernie ZS4TX: Mr. B. Van der Walt, PO Box 28691, Danhof 9310, Rep. of South Africa. Tnx G4UPS.

Malawi: 7Q7CM had his first 6m QSOs on September 16. QSL route is Colin Morgan, Private Bag 303, Chichiri, Blantyre 3, Malawi. Les 7Q7LA received his 6m rig on September 18; his grid is KH75, and his QSL route is Mr. L. Antrobus, PO Box 59, Mangochi, Malawi. John 7Q7JL in grid KH74 also operates as 7Q7JWL in KH75; his QSLs go to PO Box 2907, Blantyre, Malawi. Tnx G4UPS.

Morocco: CN8BC, a new station, was noted active on September 15, tnx GJ4ICD. Also, Joel N6AMG will be active again as CN2JP from grid IM64 from November 6 1700Z through 22 1500Z. He plans to concentrate on 50.090, listening there or 50.080 if QRM dictates. Expect the usual kilowatt amplifier and big yagi; Joel will also have a 3-element beam for 28885 liaison. QSL via Steve Lund WA8LLY/6, 10180 Mill Station Road, Sebastopol, CA 95472-9655.

Namibia: Derek V51DM is active with 500 watts on 6m. His QSL route is given as P.O. Box 22951, Windhoek.

Rwanda: Hans 9X5NH is now active on 6m with 10 watts and 5 elements. QTH is KI58.

South Africa: Servaas ZS6XL has a new address: Mr. S. D. Harmsen, PO Box 4939, Randburg 2125, Rep. of South Africa.

Togo: More info about Gerard Jacot 5V7JG: his rig has 25 watts into a 5-element Tonna. Grid is JJ06. He was also part of the CE0ZZZ team. Tnx G4UPS.

Zimbabwe: Z21BL says he has a 6m rig but no antenna. ZS6WB will see if that situation can be rectified. The QSL route for Z21BL is Box 71, Triangle, Zimbabwe. Tnx WA6KLLK. Meanwhile Z23JO continues active with an IC505 that Hal loaned him while the 75-watt rig is being repaired. Those repairs are complete and the rig will soon be shipped back to Zimbabwe. Tnx ZS6WB.

Regional Bias: The use of political units as multipliers or award categories is the most obvious problem. In the three annual ARRL VHF contests, awards are given for ARRL/CRRL sections. The UKSMG has been using U.K. Counties for both awards and contests. Even the use of DXCC countries is a discriminatory practice, in comparison to grid squares or fields. A less obvious source of bias is the use of time periods for contests which are not multiples of 24 hours. Since time of day is a critical variable in ionospheric propagation, a period of e.g., 33 hours as used in the ARRL September VHF QSO Party, discriminates for or against different regions. In this example, North Americans get two full days and one night, while on the opposite side of the world, residents end up with one day and two nights. This could be good or bad depending on latitude, but it is inherently not a level playing surface. Either the contest should run a multiple of 24 hours, or else participants should be allowed to choose which 33-hour period to operate out of an overall frame that is a multiple of 24 hours.

Season: Long distance propagation, while it does peak at slightly different times of year at different latitudes, is generally best in the periods centered roughly 30 days after each of the two equinoxes, and worst in the periods centered roughly 30 days after each of the two solstices. Therefore, the choice of mid-January, late May, mid-June, and mid-September for the four ARRL-sponsored 6m-related contests is counterproductive. And, with the current season as evidence, it appears that mid-November (used for SMIRK and UKSMG contests) is somewhat late in the season for any but the highest path-midpoint latitudes.

Distance: If it is a DX contest that we want, why should the distance spanned by our QSOs *not* be a major factor in scoring? The essence of DXing is that a planet-girdling contact is more difficult than a cross-town contact. Perhaps the trouble of calculating exact distances has been a deterrent, but that problem wanes as we all equip ourselves with PCs. I believe some VHF/UHF contests do account for distance in a very simple way by using the number of intervening grid-squares as a multiplier for each QSO. That should be applied to all 6m contests.

Exchange: Especially on 6 meters, where DX openings are a low-percentage occurrence, any contest should be designed not to interfere with the normal rapid flow of contacts. For this reason, the use of SMIRK numbers, or any other extraneous data, in the required exchange is counterproductive. If a major DX opening to a most-wanted region happens to occur during a contest, the competitors should not be forced to make the choice between making countable QSOs and quitting the contest to allow the maximum rate of DX contacts.

What we need now is a well-designed global 6-meter contest. Within the 6m community we have a number of eminent HF (and VHF) contesters, and I would like them to put their heads together and come up with a new plan for such a contest. Aside from the considerations enumerated above, I have no particular axe to grind. The new contest(s) could be sponsored by any organization—SMIRK, UKSMG, ARRL, IARU, or whatever. Or possibly this Bulletin could be the sponsor, if volunteers come forward to handle the log-checking and scoring. Perhaps the first such contest could be held next April, and thus be a part of the International 6-Meter Month.

Editorial:

A Global 6-meter DX Contest

We are beginning to understand 6 meters for its true status as a global DX band, a trend that ought to be recognized and encouraged. In this sense it is hardly different from 160-10 meters, while being utterly different from 2 meters and above. From this standpoint, existing 6-meter contests/awards, are seriously flawed for one or more of the following reasons: regional bias, wrong season, failure to recognize distance as a scoring factor, or cumbersome exchange.

EQUIPMENT NOTES

More on Discones: Bob W0QIN sends his SWR measurements of a Comet CDS-180 discone that was specified to have a SWR of better than 1.5:1 from 25-1200 MHz: 28-29 MHz: worse than 5:1. 50-52 MHz: worse than 5:1. 144.5-147.5 MHz: 1.15:1 to 1.22:1. 435-439 MHz: 1.05:1 to 1.62:1. Bob comments that the 144 and 435 readings look good but the antenna is not usable at all on six and ten.

It should be possible to replace the factory-supplied elements, in disk and skirt, with longer ones for any desired cutoff frequency (including frequencies for which the antenna was claimed to work in the first place). After all, the hub assembly is the one part that isn't easy to homebrew, and its dimensions are not especially frequency-critical. See any decent antenna handbook for formulae to calculate the dimensions of the disk and skirt. A well-designed discone is a fine antenna for purposes such as monitoring the 30-50 MHz "indicators."

Thanks to those who have offered to help publish this Bulletin. Victor Frank K6FV, well known for his long-standing commitment to 6 meters, will now handle the reproduction and mailing of the Bulletin, beginning with this issue. He has a wealth of experience, being the editor and publisher of the Sanyo PC Hackers Newsletter. I will continue to be responsible for data collection, editing, layout, and subscription fulfillment—N16E.

CONTEST: CRRL Fall Sprint

On Saturday, October 26, from 0600 to 1200 *local time*, the Canadian Radio Relay League's annual 6-meter Fall Sprint will take place. Exchange grid-square locator. Simplex modes only. Count one point per valid QSO. Multiply QSO points by number of different grid squares worked for final score. Contests are separate; there is no accumulation of scores. Logs must indicate times, call sign, and complete exchange for each valid QSO. Multipliers must be clearly marked in the log and total operating times must be shown. Entries must be postmarked no later than November 30. Results will be printed in QST Canada and the ARRL's National Contest Journal. Send logs to CRRL Sprints, c/o Dana Shtun VE3DSS, 500 Willard Ave, Toronto, Ontario M6P 2S1, Canada.

No information has yet surfaced in response to the request, at the bottom of page 4 of Volume 2, Issue 10 of this Bulletin, for the particulars of the World Record long-path openings between Japan and Alberta and Austria. All I know is that both occurred sometime in Cycle 21 or 22, between March 20 and April 20; the VE6 opening occurred between 1500 and 1600z, and the OE opening was between 0100 and 0200z. This information was extracted from the [brilliantly conceived] table "DX in Japan" in JR3HED's 6m World News, issue 32. This is not labeled L-P, but I believe it could only have been L-P at those times of day.

POSTSCRIPT FROM K6FV

I received the floppy disk containing the previous part of this bulletin on 23 October and have reformatted it for my hp LaserJet II printer. The material that formerly took up 10 pages now fits into fewer than eight. I think that you will find it more pleasing to the eyes as well. Tomorrow the copy goes to Cleo's, a Hayward CA copying firm that has produced exceptional and timely work for my Sanyo computer user's group. The printing should be back in my hands Friday, the 25th and in the mail the 26th. Printing only four sheets of paper will save printing costs and allow us to send the bulletin in an envelope while remaining under 1 oz. The envelope will not only protect the bulletin, but will permit our sending the material as **printed matter** which will save a bit of postage to our overseas subscribers.

Due to the press of time, I am sending this issue to everyone who received the previous issue. Since our publication frequency is twice a month for this and the next two months, you should watch your expiration date carefully to avoid missing issues. The expiration date is coded on the mailing label. EXPIRED9109 means your subscription expired in September and you should not be receiving this issue. EXPIRES9110 and EXP9112 are other possible expiration codes. Send your renewals and editorial matter to Shel Remington, The 50 MHz DX Bulletin, P.O. Box 1222, Keaau, HI 96749. The return address on the envelope is just for the post office to return unforwardable mail. I will eventually get a rubber stamp made up for a P.O. Box in Menlo Park, CA.

The "DX Window": John Dillinger, upon being asked why he robbed banks, is reported to have said, "Because that's where the money is." Similar logic at times leaves 50.110 sounding like some CB channels. Granted, there are a lot of receivers parked on .110, my own included, and activity there is likely to bring me out to the shack.

After it is obvious to all except those with dead receivers that the band is open, need we all pile up in the DX Window? The band is, after all, 4 MHz wide, and most of us can cover at least 200 kHz of it with a twist of the knob. All it takes is a few loud stations operating in the DX window to render it useless for reception of weak signals. What is DX? Should I, or other well equipped stations, refrain from running a line of JAs, or ZLs, or VKs or vice versa in the DX window when conditions are good? Probably! Where, then, should such activity take place? Just below 50.100 or above 50.125? One local has indicated that 50.069 is still too close for his receiver.

Should I then quit after I've worked a country once? Where would most of us be if the DX stations we eagerly seek decide that they've worked enough W's, or W6's? Is seeking grid squares, a thousand JA's; etc., to be relegated to 50.2 and above? You don't have to work the DX in the DX window. Spread out! Spin that dial! As for me, the bottom end of the band, even though covered with beacons, is starting to look attractive for contest-style cw operation. See you on 50.010±.010? Remember when that's where the activity used to be?

The 50 MHz DX Bulletin, founded by Harry Schools, KA3B, is edited by Shel Remington, N16E, and copublished with Bob Cooper ZL4AAA/K6EDX/VP5D. Issued 18 times/year: in the middle of every month, and at the beginning of the October, November, December, March, April, and May. Annual airmail subscriptions cost \$20.00 in the US; \$22.00 in Canada; US \$25.00/year elsewhere. Make subscription remittance payable to Shel Remington/50 MHz and send to The 50 MHz DX Bulletin, P.O. Box 1222, Keaau, HI 96749. Send reports to the editor by mail or telephone 808-982-5800 between 2000-0800 UT. This bulletin may be freely quoted, provided that credit is given. All dates and times are UTC, and given in ISO/ANSI format.